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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/894,864	06/27/2001	John T. Chapman	CISCP230	3690
22434	7590	10/18/2005	EXAMINER	
BEYER WEAVER & THOMAS LLP			BUTLER, DENNIS	
P.O. BOX 70250			ART UNIT	
OAKLAND, CA 94612-0250			PAPER NUMBER	
			2115	

DATE MAILED: 10/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/894,864

Applicant(s)

CHAPMAN ET AL.

Examiner

Dennis M. Butler

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 August 2005.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 10-83 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☒ Claim(s) 14-33, 47-65 and 75-83 is/are allowed.
6) ☒ Claim(s) 1-8, 10, 12, 34-40, 42, 44, 46 and 66-74 is/are rejected.
7) ☒ Claim(s) 11, 13, 41, 43 and 45 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

1. This action is in response to the amendment received on August 9, 2005. Claims 1-8 and 10-83 are pending.
2. The text of those sections of Title 35, US Code not included in this action can be found in a prior Office Action.
3. Claims 25-26, 71-72 and 80-81 are objected to because of the following informalities: The term "DCTMS" should be changed to DCMTS in order to provide correspondence between the claims and the specification. Appropriate correction is required.
4. Claims 66-74 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The claims are directed to functional descriptive material (a computer program product) that is a program or a set of programs not embodied in a tangible computer readable medium. Applicant's computer recited computer program product is not tangible because the specification defines the recited embodied computer readable code as a carrier wave traveling over an appropriate medium such as airwaves, optical lines, electrical lines, etc. at page 26, lines 23-24. Applicant's defined carrier wave media is intangible because it is incapable of being touched or perceived absent. The claims are directed to a disembodied data structure/code that is not statutory. An abstract idea of a data structure became capable of producing a useful result when it was fixed in a tangible medium that enabled its functionality to be realized. In re Warmerdam, 33 F.3d 1354, 31 USPQ2d 1754 (Fed. Cir. 1994).

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5. Claims 1-8, 10, 12, 34-40, 42, 44 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rabenko et al., U. S. Patent 6,763,032.

Per claims 1, 8 and 34:

A) Rabenko et al teach the following claimed items:

1. at least one CPU and memory with the servers of the head end at column 4, lines 50-55;
2. a head end complex at column 3, lines 52-57;
3. end nodes with the subscriber cable modems at column 3, lines 55-65;
4. downstream and upstream channels at column 4, lines 5-20;
5. fiber nodes at column 3, lines 58-63;
6. local clock circuitry at column 7, line 66 – column 8, line 6 and at column 13, lines 34-61;
7. providing a common clock reference signal (absolute time reference 21) to the local clock circuitry in selected network devices to synchronize them to the common clock reference signal at column 13, lines 1-8, 34-39 and 43-50;
8. distributing the common clock reference signal to the network devices via a first downstream channel at column 13, lines 24-61.

B) The claims differ from Rabenko et al in that Rabenko et al fail to explicitly teach causing one or more fiber nodes to be synchronized to the common clock reference signal as claimed.

C) However, Rabenko describes providing a common clock reference signal (absolute time reference 21) to the local clock circuitry in selected network

devices to synchronize them to the common clock reference signal at column 13, lines 1-8, 34-39 and 43-50 and distributing the common clock reference signal to the network devices via a first downstream channel at column 13, lines 24-61.

Rabenko describes that the network devices include head end CMTS and cable modem (CM) devices. Rabenko describes that synchronization is necessary in order to ensure that each CM transmits only within its allocated time slots at column 7, line 66 – column 8, line 6 and as described above in reference to column 13. Therefore, Rabenko describes causing CMTS (DCMTS) and CM nodes to be synchronized to the common clock reference signal in order for the nodes to properly communicate with each other within allocated time slots.

Rabenko describes providing a plurality of fiber nodes in the system that serve or communicate with subscriber cable modems at column 3, lines 58-63. The fiber nodes are between the CMTS (DCMTS) and CM nodes and facilitate communication between these nodes. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to also cause one or more fiber nodes to be synchronized to the same common clock reference signal that the CMTS (DCMTS) and CM nodes are synchronized to in order to facilitate communication between the CMTS (DCMTS) and CM nodes by maintaining accurately synchronized time slots.

Per claims 2, 5, 10, 12, 35, 38, 42 and 44:

Rabenko describes providing a common clock reference frequency within a range of 5 to 42 Mhz at column 18, lines 54-67. Rabenko describes DOCSIS

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protocol at column 19, lines 23-26. Rabenko describes end nodes are cable modems at column 3, lines 55-65. Rabenko describes the common clock reference signal corresponds to a modulated carrier signal having a master time stamp at column 13, lines 24-37.

Per claims 3, 4, 6, 7, 36, 37, 39, 40 and 46:

Rabenko et al teach the elements of claims 1, 2, 34 and 35 as described in the above rejection. The claims seem to differ from Rabenko et al in that Rabenko et al fail to explicitly teach the elements of claims 3, 4, 6, 7, 36, 37, 39, 40 and 46.

However these claims recite obvious variations of well-known synchronization and communications procedures and would have been obvious in view of the teachings and suggestions of Rabenko.

6. Claims 11, 13, 41, 43 and 45 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. Claims 14-33, 47-65 and 75-83 are allowable over the art of record because the art of record does not teach or suggest the combination of elements recited in independent claims 14, 24, 47, 55, 75, and 79 and particularly the plurality of fiber nodes including at least one RF fiber node and at least one packet fiber node.

8. Applicant's arguments filed on August 9, 2005 have been fully considered but they are not persuasive.

In the Remarks, applicant has argued in substance that:

A. Rabenko does not teach or suggest the common clock reference signal distributed to a distributed cable modem termination system (DCMTS) to cause a local clock at the DCMTS to be synchronized to the common reference signal.

B. Claims 66-74 have been amended to overcome the 35 U.S.C. 101 rejection.

9. As to point A, the examiner disagrees with applicant's contention. As described in the above rejection of claims 1, 8 and 34, Rabenko describes distributing a common reference clock to a cable modem termination system (CMTS) to cause a local clock at the CMTS to be synchronized to the common reference signal. The CMTS corresponds to the claimed DCMTS. Therefore, Rabenko teaches the claimed limitation. In addition, the examiner disagrees with the remark that claims 1 and 34 have been amended to include recitations of allowable claim 9. The amendments to claims 1 and 34 correspond to claim 8 which was rejected in the previous office action.

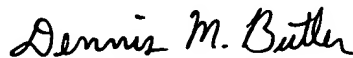
As to point B, the examiner disagrees with applicant's contention. As described in the above rejection, applicant's specification defines a computer readable medium as a carrier wave traveling over an appropriate medium such as airwaves, optical lines, electrical lines, etc. at page 26, lines 23-24. Therefore, the claimed invention is still intangible. The rejection could be overcome by claiming a computer readable **storage** medium in order to limit the claimed invention to a tangible storage medium including computer code.

10. **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis M. Butler whose telephone number is 571-272-3663. The fax number is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Dennis M. Butler
Primary Examiner
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